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ABSTRACT

The purpose of this study was to examine verbal conceptual knowledge of selected economic topics to test for the existence of age, gender, and/or ethnic related trends and patterns. Three hundred fifty-five children, aged 2-1/2 through 16, were interviewed in one-on-one sessions by their teachers. Five questions were asked: (1) Why do people work?; (2) Do people have everything they want?; (3) How do you decide what to buy with your money?; (4) Why do people pay taxes?; (5) How do we get the things that are not made or grown in our country? Teachers recorded verbatim all responses of the children. No trends and patterns were found for gender or ethnicity. However, many were found for age. A discussion of the results for each question are included in the paper. The characteristics of childrens' responses along the developmental levels parallel previous findings and generally support patterns found in the concept development literature. No major departure from previously established patterns was seen. In general, economic topics which were familiar to the everyday lives of children elicited more sophisticated responses at earlier ages. Generally, by age 7, young children had formulated fairly accurate conceptions of work and scarcity and had developed a method for making decisions. Concept response patterns tended to progress from more egocentric to more objective notions and from more concrete ideas to more abstract ideas. These same response characteristics applied to the responses for the tax and imports questions. (RM)

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AWARENESS OF ECONOMIC KNOWLEDGE: A DEVELOPMENTAL STUDY

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Particular thanks to Dr. Francis Rushing, Immediate Past Executive Director, Georgia Council on Economic Education, for hosting idea sessions; to Dr. Ouida Dickey, Berry College; Dr. Carole Hahn, Emory University; Dr. Elmer Williams, University of Georgia; and Dr. David Martin, Georgia State University, for help in conceptualizing questions and in collecting data; to Rochelle Verner, Georgia State University, for assistance in coding and analyzing data.

SO 014 157

Jerome Bruner's bold hypothesis that "any topic can be taught effectively in some intellectually honest form to any child at any stage of development" (1960) has influenced more than twenty years of curriculum development in social studies education. Major conceptual ideas of the various social sciences spiral throughout most curricular programs, from kindergarten through high school. Scope and sequence decisions are generally made on the basis of adult logic and the systems of logic inherent in the material itself. This behavioristic approach to curriculum development is based upon generalizations of certain assumptions about the learner and the learning process. Learning, according to this view, is incremental and cumulative; little attention is paid to maturational factors which may interact with the content to inhibit or promote learning.

What role does maturation play in the development of social cognitions? What developmental processes and patterns exist? How should these processes/patterns influence our curriculum-building and instructional decisions?

The focus of most psychological investigations into concept formation of children has been on the development of concepts of the physical world; the work of Piaget (1929, 1951) and his colleagues has been notable and has influenced much of contemporary thinking and work in developmental psychology. What about the development of conceptions of social phenomena? Are the processes employed in conceptions of physical causality generalizable to processes employed in conceptions of social causality? Are there universal mental structures which determine or influence conceptual development in social studies? If these mental structures or stages of thought exist, are they content-free, or are these cognitive structures located within specific content domains? Does the work in political socialization have any relevance for understanding economic socialization? Does the work on the development of the concept of intentionality

(Collins, 1980) have relevance to understanding the development of the concept of justice or scarcity?

The answers to these questions are not clear; the questions themselves go beyond the scope of the research reported here, but should help to place this study in a particular context. It is being assumed that a better knowledge of developmental processes and patterns in the attainment of social concepts will inform our curriculum and instructional decision-making.

The focus of this particular study is on the development of economic concepts. In a recent review of the research on the development of economic thinking Schug (1981) concludes that most of the work in this area deals with the development of consumer-related ideas rather than the more analytical micro/macro economic concepts. Conclusions from several studies (Danziger, 1958; Fox, 1978) which focus on conceptualizations of economic ideas such as price, money, exchange, spending, saving, and banking do support conclusions drawn from laboratory-based studies of concept learning as well as the learning of physical concepts. These generalizations include: children tend to progress from more egocentered, static, literal conceptions to more objective, fluid and abstract conceptualizations; simple, linear explanations progress to more complex, reciprocal ideas wherein children are able to understand and apply multiple classifications and give multiple reasons for causality. While age consistently appears as a relevant factor in most studies of the attainment of economic concepts, in a few cases, cognition does not seem to vary much by age. Sutton (1962) found little variation in responses by age of the eighty-five six to thirteen year olds interviewed on economic topics.

The focus of the present study was to examine verbal conceptual knowledge on selected economic topics to test for the existence of age, gender and/or

ethnic related trends and patterns. Three hundred fifty-five children, ages two and a half through sixteen were interviewed in a one-on-one session by their teachers. Teachers received common instructions to read each question clearly; repeat, if necessary, but not to rephrase the question; and to record verbatim all responses of the child. Children were randomly selected from intact classes; the schools were located within a 100 mile radius of a large metropolitan area in Georgia. An attempt was made to obtain a measure for socio-economic class by requesting information on the occupations of the mother and father. Incomplete data prompted the loss of this factor.

The intent of this study was not to investigate in depth the conceptual responses of children, but to obtain a broad, descriptive picture of initial responses to a number of economic questions. The study was clearly exploratory and viewed as preliminary to more intensive clinical interviews and concept experiments. Five questions were selected:

1. Why do poeple work?
2. Do people have everything they want?
3. How do you decide what to buy with your money?
4. Why do people pay taxes?
5. How do we get the things that are not made or grown in our country?

The first three questions dealt with phenomena with which children tend to have direct experience: work, wants and society, and making decisions about how to spend one's money. The last two questions focused on taxes and trade/imports--phenomena not usually in the forefront of a child's direct experience. Questions were asked to elicit responses which could be examined for the extent of the knowledge possessed as well as for the type of reasoning used.

To examine responses for the extent of knowledge given, a content analysis

coding system was developed from the range of actual responses. Frequencies, means and standard deviations were tabulated for each question. Frequency Tables are included (Tables 1-5), as these illustrate general age-related patterns. Analysis of variance tests were employed to test for gender, age and ethnic differences in response patterns. No main effects for gender or ethnicity were found. Main effects for age existed for each of the five questions. Further tests were conducted to identify the age groups which differed significantly from one another. A discussion of the results for each question follows.

Question One: Why do people work? Responses clustered along four dimensions: I don't know, people work for money, for their family, or to learn. Main effects for age (02-04; 05-07; 08-10; 11-12 and 13-16) were found ($F = 7.210$, $df = 4$ $p < .001$). Subsequent one-way analysis of variance and Tukey HSD tests indicated groups two, three, four and five were significantly different from group one. The shift from age four to five is evident in Table One. At age four, most students respond that they "don't know" why people work, while at age five, most students indicate that people work for money. It's interesting to note the range of the pattern of responses at age four.

Question Two: Do people have everything they want? This question has to do with the child's perception of scarcity. Younger children (ages 2-4) respond significantly differently ($F = 27.941$, $df = 4$, $p < .001$; Tukey HSD test indicating group one, aged 2-4, significantly different from groups 2, 3, 4, 5) from older children answering "yes" to this question; children at age five appear unsure, with half answering yes, half no. By age six, children respond with a knowing "No."

The answers of the youngest children (ages 2-4) are often tautological (yes, because they always do; yes, because they want to); egocentric (yes, my momma tells me to; yes, my momma gets it for me); inaccurate (yes, when they see

something in the store, they buy it); concrete (yes, dresses and toys) and moralistic (no, because Jesus don't want them to). Children ages 6-9 continue to draw heavily on personal experiences to elaborate on their responses: (no, some people want computer games, but they don't have them, age 7; no, I'd like a Star Wars laser gun but my mom and dad can't affort it, age 6). However, generalizations beyond one's own personal example begin to occur frequently by age nine and continue among the older children, increasing in sophistication and abstractness: (no, not always; some people don't have lots of money, age 8; no, some people want to be more well-known or popular and sometimes it just doesn't work out that way, age 13; no, it's human nature to want more than what one has; people are always wanting more, age 16).

Question Three: How do you decide what to buy with your money? Responses to this question tended to either be product or process oriented; i.e., students either named a specific item they would buy or discussed a method or procedure they use when deciding what to buy with their money. Main effects for age ($F = 12.980$, $df = 4$, $p < .001$) were found (ages grouped 02-05, 06-07, 08-10, 11-12 and 13-16), with group one (ages 2-5) being significantly different from groups 2, 3 and 5. The shift in the response pattern from ages five to seven is easily seen in Table 3. Children ages 2-5 predominately responded by naming a specific thing they'd buy (chewing gum, age 2.6; I buy juice, age 3; toys, age 4; get some candy, age 5; candy, car, doll and telephone, age 5). It should be noted that even at these young ages, there is some variation (often quite a bit) in individual responses. Five year old responses also included process-oriented responses such as "It really depends on what you like and what you need; that's one way to decide."

By ages 6-7, children better understand the meaning of the question, and begin to discuss the methods they use for decision-making. Younger children tend

to use more concrete, literal processes: (I look in my hand before I go to buying something, age 7); and depend more on an authority figure (ask my mother, age 8; you don't get what you want, your momma tells you what to get, age 9). Older children apply more criteria to their choice-making behavior and include saving as a choice: (I ask, do I really need it, is it worth it, and how much does it cost? age 12; normally I spend it on what needs to be done and save some for something I might want in the future, age 13; usually I'll look for the best buy; if there are two things not of good quality, I'll buy something else, age 13).

Question Four: Why do people pay taxes? Main effects for age ($F = 18.304$, $df = 4$, $p < .001$) were found for the responses to this question, with groups 3 (ages 8-10), 4 (ages 11-12) and 5 (ages 13-16) responding significantly differently from groups 1 (ages 2-4) and 2 (ages 5-7), and with group 5 being significantly different also from group 3. It is not until age twelve that a majority of the respondents indicate that taxes have some relationship to government(s). Fifty percent of the eleven year olds respond to this question with "I don't know." Beginning with the 8-10 year old group, however, larger percentages of the students include the idea of government in their response. While it appears that the general notion of taxes doesn't become focused until children are at least twelve, the responses indicate a range of individual differences. A six year old in kindergarten responds that people pay taxes "so the president can give it to firemen, policemen and ambulances," indicating some awareness of public goods. One nine year old answers, "they pay taxes for inaugurations, to build roads and schools and other things" while another responds, "they might get in trouble if they don't." The responses of the oldest students do not indicate a great deal of knowledge about taxes; the responses indicate little accumulated knowledge: "so the government will not be poor," age 12; "if streetlights are broken, they replace them and to make roads," age 13; "for schools, roads and highways and

teachers," age 12; "to fund government spending," age 16. Affective responses emerged in a few cases: Why do people pay taxes? "to support the stupid government," age 12; "supposedly to give it to the poor, " age 10.

The responses to the "tax" question indicate a later period of focusing an differentiation than for the three prior concepts, work, scarcity and decision-making. The direct experiences children have with the idea of taxes--what they are, who pays them, the various uses for tax monies and so on -- are probably quite limited. Even though children have had experiences paying sales taxes on items they've purchased and have undoubtedly heard parents discussing taxes, little of this information becomes consolidated into an accurate and wholistic understanding of taxes.

Question Five: How do we get the things that are not made or grown in our country? Main effects for age were found ($F = 29.777$, $df = 4$, $p < .001$) with the Tukey HSD test indicating group 2 (ages 5-7) responded significantly different from group one (ages 2-4); group 3 (8-10) significantly different from groups one (2-4) and two (5-7); group 4 (11-12) different from groups one and two; and group 5 different from groups 1, 2 and 3. It is not until age nine that a majority of the students indicate their awareness of trade with other countries (the word "import" did not necessarily have to be used for a response to be noted as an "import" response.) Five to seven year olds provide a wide range of answers, but it is not until age seven that the idea of other countries fully emerges. The responses of the youngest students are tautological (we make ..., age 4; you don't get it, age 5); indicate a mystical, religious or supreme being solution: (by God and Jesus; just plant seeds in the ground, age 5; momma, age 4; water makes it grow, age 4). Awareness of international trade grows more complete with age (we get the things from other countries who ship things to eat to us, age 9;

we trade with other countries and some countries give things to each other, age 14); however, the responses do not become very sophisticated, even for the oldest students.

It is important to recognize the limitations of a study such as this one. First of all, language development and concept development are not synonymous; in a study such as this where student conceptualizations are tapped through verbal language only, the non-equivalence of language ability and conceptual level must be considered.

In addition, categorizing children by age and discussing general tendencies for particular age levels tends to mask individual differences and the learning of any one particular child. Clearly, many factors influence conceptual development -- and many of these factors (I.Q., reading level, experience level, SES, and so on) were not considered in this exploratory study. It would be a mistake to draw conclusions about child development or about curriculum sequences from this study.

The study aimed to explore the question of age-related differences in the content and the patterns of responses children make to selected economic questions. In general, economic topics which were familiar to the everyday lives of children elicited more sophisticated responses at earlier ages. Generally, by age 7, young children had formulated fairly accurate conceptions of work and scarcity and had developed a method for making decisions. Concept response patterns tended to progress from more egocentric to more objective notions; from tautological, literal, rule-oriented responses to more generalizable responses; from more concrete ideas to more abstract ideas; from more inconsistent and narrow to more consistent and accurate responses.

These same response characteristics applied to the responses for the tax and imports questions. However, the consolidations did not occur at such early ages. These concepts, more distant from the child's immediate experience, are probably more difficult for the child to grasp intuitively. It may be the case that the upper elementary school years, rather than the earlier years, are more practical times to introduce such macro concepts as taxation and trade. Further studies should help us understand the idea of developmental competence, or the most efficient time to instruct for certain ideas.

The characteristics of childrens' responses along the developmental levels parallel previous findings and generally support patterns found in the concept development literature. No major departure from previously established patterns was seen.

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Table 1

Why Do People Work?

n=355

Age n=	Don't Know	Family	Money	To Learn	Other
02 n=8	* 6/75.0		1/12.5		
03 n=21	12/57.1		6/28.6		3/14.3
04 n=63	34/54.0	3/4.8	11/17.5	2/3.2	13/20.6
05 n=70	23/32.9	1/1.4	37/52.9	3/4.3	6/8.6
06 n=37	1/2.7		32/86.5		4/10.8
07 n=25	2/8.0		17/68.0	5/20.0	1/4.0
08 n=29	1/3.4	2/6.9	20/69.0	4/13.8	2/6.9
09 n=23		1/4.3	20/87.0	2/8.7	
10 n=20	1/5.0		19/95.0		
11 n=6		1/6.7	5/83.3		
12 n=12		1/8.3	11/91.7		
13 n=9		1/11.1	8/88.9		
14 n=10			10/100.0		
15 n=12		1/8.3	11/91.7		
16 n=10			10/100.0		

* Absolute Frequency
. Relative Percentage

Table 2

Do People Have Everything They Want?

n=355

Age n=	Yes *	No	Questionable
02 n=8	5/62.5	1/12.5	1/12.5
03 n=21	15/71.4	5/23.8	1/4.8
04 n=63	46/73.0	12/19.0	5/7.9
05 n=70	33/47.1	36/51.4	1/1.4
06 n=37	7/18.9	30/81.1	
07 n=25	2/8.0	23/92.0	
08 n=29	1/3.4	28/96.6	
09 n=23		22/95.7	1/4.3
10 n=20	2/10.0	18/90.0	
11 n=6		6/100.0	
12 n=12		12/100.0	
13 n=9		9/100.0	
14 n=10		10/100.0	
15 n=12		11/91.7	1/8.3
16 n=10		10/100.0	

* Absolute Frequency
Relative Percentage

Table 3

How Do You Decide What To Buy With Your Money?

n=355

Age n=	Don't Know	Method	Product-related	Other
02 n=8	* 1/12.5	2/25.0	4/50.0	
03 n=21	3/14.3	4/19.0	14/66.7	
04 n=63	6/9.5	6/9.5	51/81.0	
05 n=70	7/10.0	12/17.1	47/67.1	3/4.3
06 n=37	5/13.5	16/43.2	16/43.2	
07 n=25	3/12.0	19/76.0	3/12.0	
08 n=29	1/3.4	22/75.9	5/17.2	1/3.4
09 n=23		16/69.6	7/30.4	
10 n=20	1/5.0	8/40.0	11/55.0	
11 n=6		5/83.3	1/16.7	
12 n=12		8/66.7	4/33.3	
13 n=9		8/88.9	1/11.1	
14 n=10		9/90.0	1/10.0	
15 n=12		11/91.7	1/8.3	
16 n=10		9/90.0	1/10.0	

* Absolute Frequency
Relative Percentage

Table 4

Why Do People Pay Taxes?

n=355

Age n=	Don't Know	Family	Food	Other Possessions	Govern-ment	For Poor	Economy	Have To
02 n=8	* 6/75.0			1/12.5				
03 n=21	17/81.0							4/19.
04 n=63	48/76.2			4/6.3	3/4.8			8/12.
05 n=70	37/52.9	8/11.4	12/17.1	9/12.9	1/1.4	1/1.4		
06 n=37	23/62.2			4/10.8	3/8.1	1/2.7	1/2.7	4/10.
07 n=25	16/64.0	1/4.0		2/8.0	1/4.0	3/12.0		2/8.
08 n=29	13/44.8			7/24.1	8/27.6	1/3.4		
09 n=23	7/30.4	1/4.3		4/17.4	7/30.4	3/13.0		1/4.
10 n=20	7/35.0			7/35.0	4/20.0	1/5.0	1/5.0	
11 n=6	3/50.0			1/16.7	2/33.3			
12 n=12	1/8.3		1/8.3	1/8.3	8/66.7			1/8.
13 n=9				1/11.1	6/66.7	1/11.1		1/11.
14 n=10	1/10.0				7/70.0		1/10.0	1/10
15 n=12					11/91.7			1/8
16 n=10					8/80.0			2/2

* Absolute Frequency
Relative Percentage

Table 5

How Do We Get Things That Are Not Made or Grown In Our Country?

n=355

Age n=	Don't Know	Make Them	Buy Them	Import	We Don't	From Other Sources
02	*					
n=	4/50.0		1/12.5			3/37.5
03						
n=	14/66.7	2/9.5	3/14.3			2/9.5
04						
n=63	48/76.2	6/9.5	3/4.8	3/4.8	1/1.6	2/3.2
05						
n=70	37/52.9	8/11.4	12/17.1	9/12.9	1/1.4	1/1.4
06						
n=37	17/45.9	2/5.4	6/16.2	5/13.5	2/5.4	3/8.1
07						
n=25	2/8.0	3/12.0	9/36.0	10/40.0		1/4.0
08						
n=29	4/13.8	7/24.1	4/13.8	14/48.3		
09						
n=23	3/13.0	6/26.1		14/60.9		
10						
n=20	1/5.0	3/15.0		16/80.0		
11						
n=6		1/16.7	1/16.7	4/66.7		
12						
n=12		1/8.3		11/91.7		
13						
n=9	1/11.1			7/77.8		1/11.1
14						
n=10				9/90.0	1/10.0	
15						
n=12				12/100.0		
16						
n=10	1/10.0			9/90.0		

* Absolute Frequency
Relative Percentage